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# CRC: Planning a Mega-project


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APA Conference
October 2011

Oregon Department of Transportation · Washington State Department of Transportation

Federal Transit Administration • Federal Highway Administration
City of Vancouver • City of Portland • SW Washington Regional Transportation Council • Metro • C-TRAN • TriMet

## What we plan to cover

- Existing Conditions
- Locally Preferred Alternative
- NEPA Process
- Land Use and Induced Growth
- Greenhouse Gas and Climate Change
- Question and Answer

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## Project Partners

- Oregon Department of Transportation
- Washington State Department of Transportation
- U.S. Department of Transportation — Federal Highway Administration, Federal Transit Administration
- City of Vancouver
- City of Portland
- SW Washington Regional Transportation Council
- Metro
- C-TRAN
- TriMet

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## CRC project area


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## Seven closely spaced interchanges


Source: CRC Traffic Technical Report, 2011

Standard Spacing: Desirable = 2 Miles
Minimum = 1 Mile

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## Transportation problems


- Collisions
- Congestion
- Limited transit options
- Freight immobility
- Narrow bike and pedestrian path
- Earthquake risk

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## Project area: Marine Drive

- Most congested and most used freight interchange in Oregon
- Connects to Port of Portland, rail lines, warehouse and distribution facilities

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## Project area: Hayden Island


- Site of the highest number of crashes on I-5 in Oregon
- I-5 is only access to Hayden Island

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## Project area: Interstate Bridge

- First bridge built in 1917; second in 1958
- Lift span
- Bicycle and foot path is 4ft wide
- Risk of failure in earthquake

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## Project area: Vancouver

- 4 interchanges
- Safety problems
- Back-ups on local roads
- Freight access
- Transit reliability

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## Locally Preferred Alternative (LPA)

- Replacement I-5 **bridge**
- Improvements to closely-closed highway **interchanges**
- **Light rail** extension to Vancouver
- **Pedestrian and bicycle** facility improvements
- **Toll** on river crossing
- **TDM/TSM** measures


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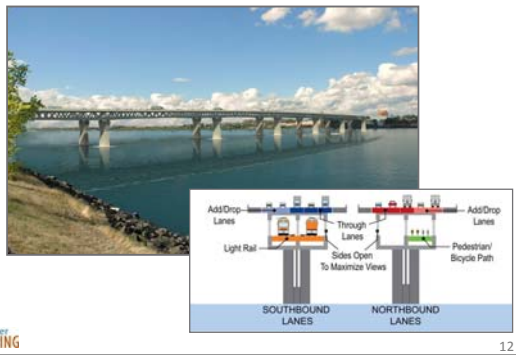
## Replace the I-5 bridge

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## Improve Interchanges

- Seven interchanges
- Extent of improvements vary
- Improve safety and traffic flow


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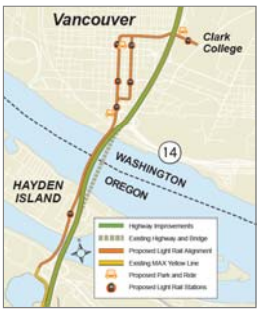
## Extend light rail




- Get people out of traffic
- Connection to more than 70 miles of rail network in the region
- Encourage up to 6 million transit boardings per year

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## Improve bicycle and pedestrian facilities

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## Tolling

- Variable toll rate

## TDM/TSM

- Expanded programs and facilities

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## NEPA

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## What is the National Environmental Policy (not protection) Act?

- Federal nexus
- Procedural vs. substantive law
- Hold federal agencies accountable for decision making
- Letter of the law vs. spirit of the law
  - Ensure that environmental information is available to public officials and citizens before decisions are made and actions are taken

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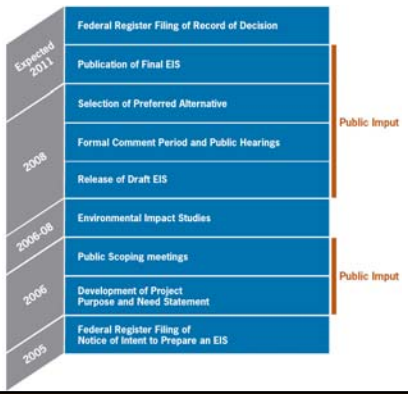
## CRC NEPA Process

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## Purpose and Need

- Collisions
- Congestion
- Limited transit options
- Freight immobility
- Narrow bike and pedestrian path
- Earthquake risk

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## Scoping: Agency and Tribal Coordination

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## Resource Agency Coordination

- **Multiple federal agencies involved**
- **Interstate Collaborative Environmental Process (InterCEP)**
  - GOAL: Early coordination and collaboration in the NEPA process
  - 12 state and federal resource agencies and five transportation offices signed agreement
  - Includes both Oregon and Washington SHPO offices
  - One representative from each federal agency
  - Concurrence and comment points
  - Monthly meetings
  - Working group technical meetings

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## Tribes

**Who?**

- Ten federally recognized tribes and one non-federally recognized

**How?**

- Building trust through early and continuous coordination
- Integrating tribes in project tasks
- Inadvertent Discover Plan
- Unprecedented “History symposium”

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## Scoping: Public

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## Working Groups

- **The project receives advice from its Project Sponsors Council, plus community advisory groups focused on the following issues:**
  - Community and environmental justice
  - Freight
  - Light rail in Portland
  - Light rail in Vancouver
  - Marine Drive interchange design
  - Pedestrian and bicycle travel
  - Urban design and bridge aesthetics

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## Public Involvement

- **Since October 2005, the project has had over 27,000 face to face conversations with the public at over 900 events:**
  - Neighborhood Associations
  - Fairs and festivals
  - Project workshops/open houses
  - Business Associations
  - Other community groups

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## Alternatives Development and Screening

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## Major Steps in Screening:

1. Develop Evaluation Framework
   - Pass/Fail criteria (Step A) - purpose and need
   - Detailed Screening Criteria (Step B)
2. Gather ideas (transit, river crossing, interchanges, bike/ped)
3. Apply Steps A and B to ideas (70 components)
4. Package remaining ideas into a “reasonable range” of alternatives (12)
5. Evaluate alternatives against the screening criteria
6. Carry forward promising alternatives into the DEIS

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## Step A Pass/Fail Questions

**Does the component:**

Q1- Increase vehicular capacity or decrease vehicular demand within the BIA?

Q2- Improve transit performance within the BIA?

Q3- Improve freight mobility within the BIA?

Q4- Improve safety and decrease vulnerability to incidents within the bridge influence area?

Q5- Improve bicycle and pedestrian mobility within the BIA?

Q6- Reduce seismic risk of the I-5 Columbia River Crossing?

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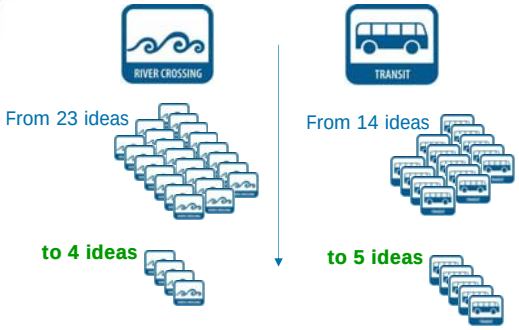
## Narrowing Process

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## River Crossing Ideas Dismissed

- Any bridges with a movable lift span
- Tunnel to replace or supplement I-5
- High-level bridges
- New corridor crossing
- New corridor crossing plus widening existing I-5 bridges
- New western highway (I-605)
- New eastern crossing
- 33rd Avenue crossing
- I-205 improvements
- Arterial crossing without I-5 improvements
- Supplemental Bridge – Upstream – Midlevel
- Non-freeway multimodal crossing

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## Arterial Crossing without I-5 Improvements

Advance:

Yes ☐

No ☑

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## Arterial Crossing without I-5 Improvements

- **Does not satisfy Questions 1, 3, 4, and 6**
- Q1 and 3 – Does not significantly increase vehicular capacity or reduce demand for commuter and truck freight travel along I-5.
- Q4 – Does not address known I-5 non-standard design features that contribute to vehicular collisions. Future I-5 safety would be expected to worsen as demand increases.
- Q6 – Investment in an alternative corridor does not reduce the seismic risk of the I-5 Columbia River crossing.

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## Transit Ideas Dismissed

- Streetcar
- High-speed Rail
- Ferry Service
- Monorail System
- Magnetic Levitation Railway
- Commuter Rail in BNSF Trackage
- Heavy Rail
- Personal Rapid Transit
- People Mover / Automated Guideway Transit (AGT)

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## Magnetic Levitation (Maglev) Railway

Advance:

Yes ☐

No ☑


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## Magnetic Levitation (Maglev) Railway

- **Does not satisfy Questions 1 and 2 in Step A**
- Q1 – An experimental high-technology rail system that serves long distance trips (ie, Salem to Seattle). Would not generate significant ridership and reduce vehicular demand.
- Q2 – Does not improve transit performance and can't be feasibly integrated into existing service structures

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## How were the screening criteria developed and adopted?

- **Input and Information:**
  - Task Force workshops, presentations and materials
  - Public open houses
  - Public testimony at Task Force meetings
  - InterCEP presentations and workshops
- **Action Taken:**
  - After public testimony, input from resource agencies and staff, the Task Force adopted screening criteria
  - InterCEP concurred on screening criteria

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## Step B Screening: Criteria

1. Community Livability and Human Resources
2. Mobility, Reliability, Accessibility, Congestion Reduction, and Efficiency
3. Modal Choice
4. Safety
5. Regional Economy/Freight Mobility
6. Stewardship of Natural Resources
7. Distribution of Benefits and Impacts
8. Cost Effectiveness and Financial Resources
9. Growth Management and Land Use
10. Constructability

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## Screening Criteria Examples:

| 4 Safety |
|---|
| 4.1 Enhance vehicle/freight safety |
| 4.2 Enhance bike/pedestrian facilities and safety |
| 4.3 Enhance or maintain marine safety |
| 4.4 Enhance or maintain aviation safety |
| 4.5 Provide sustained life-line connectivity |
| 4.6 Enhance I-5 incident/emergency response access within the bridge influence area |
| 5.1 Reduce travel times and reduce delay for vehicle-moved freight on I-5 within the bridge influence area |
| 5.2 Reduce travel times and reduce delay for vehicle-moved freight in the I-5 corridor |
| 5.3 Enhance or maintain efficiency of marine navigation |
| 5.4 Improve freight truck throughput of the bridge influence area |
| 5.5 Avoid or minimize adverse impacts to the parallel freight rail corridor |
| 5.6 Enhance or maintain access to port, freight, and industrial facilities |
| **6 Stewardship of Natural Resources** |
| 6.1 Avoid, then minimize adverse impacts to, and where practicable enhance, threatened or endangered fish and wildlife and their habitat |
| 6.2 Avoid, then minimize adverse impacts to, and where practicable enhance, other fish and wildlife and their habitat |
| 6.3 Avoid, then minimize adverse impacts to, and where practicable enhance, rare, threatened, or endangered plant species |
| 6.4 Avoid, then minimize adverse impacts to, and where practicable enhance and/or restore, wetlands |
| 6.5 Avoid, then minimize adverse impacts to, and where practicable enhance, water quality |
| 6.6 Minimize total energy consumption of construction and transportation system operations |
| 6.7 Avoid, then minimize adverse impacts to, and where practicable enhance, waterways |

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## Supplemental Bridge: Draft rendering


Looking south from downtown Vancouver, Wash.

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## Replacement Bridge: Draft rendering


Looking south from downtown Vancouver, Wash.

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## Replacement Bridge: draft rendering


Looking south from downtown Vancouver, Wash.

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## High Capacity Transit Mode Choice

**Bus Rapid Transit**

- Longer buses carry up to 91 people
- Dedicated bus lanes across the bridge and within BIA avoid congestion
- Stations have platforms, shelters and ticket vending machines

**Light rail**

- Two-car trains carry up to 266 people
- Tracks designated for light rail use only
- Stations have platforms, shelters and ticket vending machines

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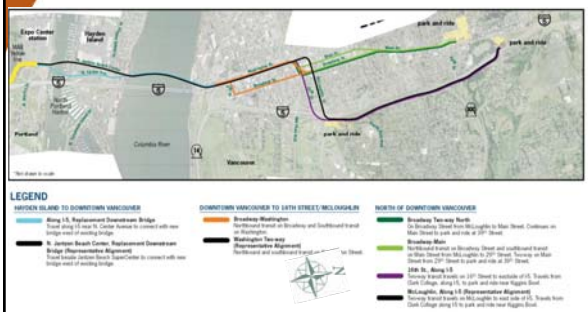
## Transit Alignment Choices

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## Draft EIS

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City of Vancouver • City of Portland • SW Washington Regional Transportation Council • Metro • C-TRAN • TriMet

## Alternatives for Draft Environmental Impact Statement

1. **No build**
2. **Replacement bridge with bus rapid transit**
3. **Replacement bridge with light rail**
4. **Supplemental bridge with bus rapid transit**
5. **Supplemental bridge with light rail**

All "build" alternatives include interchange, freight, and pedestrian/bicycle improvements between SR-500 and Delta Park.

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## Draft Environmental Impact Statement (EIS)

- **Defines project goals and purpose and need**
- **Analyzes positive and negative effects of each alternative**
- **Outlines ways to avoid, minimize, or mitigate negative effects**
- **Seeks public input to inform decision**
- **Required by federal law**

**Public comment period**
May 2 – July 1, 2008

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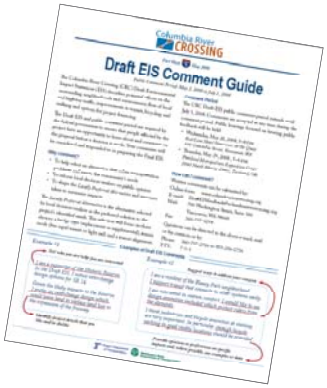
## Public Comment Guide

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## Public Comment

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Federal Transit Administration • Federal Highway Administration
City of Vancouver • City of Portland • SW Washington Regional Transportation Council • Metro • C-TRAN • TriMet

## Draft EIS Public Meetings and Notification

- **Postcard mailer to 57,000 addresses**
- **May 2008 open houses and public hearings attended by 425 people**
- **Four question and answer meetings were held to discuss DEIS findings**
- **Entire document and technical reports online for review and comment**
- **Fact sheets and notification in English, Vietnamese, Russian and Spanish**

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## Draft EIS Public Comments

- **Received 1,600 individual comments**
  - Letters
  - Emails
  - Comment cards
  - Phone conversations
  - Verbal testimony
- **Delineated into 6,000 individual comments**
  - Put into a database for response
  - Delineated by topic
  - Published in the FEIS

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## LPA Adoption

- **Adopted in July 2008 by all sponsor agencies**
- **Represents regional consensus**
- **Resolutions attached to LPA**
  - When adopting the LPA, our sponsor agencies raised a number of issues they asked to be addressed, including:
    - Valid travel demand data? (Expert Panel)
    - Can tolling or other TDM strategies further reduce demand?
    - Can increasing transit service further reduce demand?
    - Impact on land use?
    - Impact on greenhouse gases? (Expert Panel)
    - What are the operational differences?

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## Final Environmental Impact Statement

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## What is done between the DEIS and FEIS

- **Independent review panels for technical analysis**
  - Greenhouse gases
  - Induced land use
  - Traffic demand modeling
  - Bridge type
- **LPA refinements**
- **Updated analysis for LPA**
- **Biological Opinion received**
- **Section 106 MOA signed**

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## What is the purpose of the FEIS?

- **Respond to comments on DEIS**
- **Refine the LPA design and update impacts**
  - Hayden Island
  - Transit alignment
- **Update data and analysis as needed**
  - Integrate 2010 census data
  - Detailed impacts to threatened/endangered salmon runs
  - Information about archeological sites
- **Refine mitigation descriptions and make commitments where possible**



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## How was public / agency input used to develop the FEIS information?

- **Transit alignments in downtown Vancouver were selected through the Vancouver Working Group**
- **Concerns about VNHR impacts led to reduced impact and new curation/museum facility**
- **Concerns about open web box bridge type resulted in the Bridge Review Panel and recommendations**
- **Need to minimize salmon impacts led to drilled shaft construction and pile installation plan**
- **Comments about Hayden Island resulted in a local connection bridge and reduced interchange footprint (Option A)**



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## Record of Decision

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## What is the Record of Decision?

- **Decision document signed by the federal leads**
- **Outlines the project and mitigation that is eligible for federal funding**
- **Allows the project to begin obtaining ROW**
- **Allows project to move into final design**
- **Indicates the end of the NEPA process, but not end of the project**

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## Lessons Learned

- **Document your decision making process well**
  - Alternatives will resurface throughout the process
- **A lot of coordination is beneficial!**
- **Independent review can be very helpful**
  - Additional perspective – new bridge type
  - Validation of our analysis
- **Engaging the public and stakeholders is very challenging**
- **It was labor/time intensive to develop consensus on the P&N and screening criteria, but worth it!**
- **Balancing reader-friendly with the kitchen sink documentation approach is very challenging!**

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## Project schedule


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## Land Use and Induced Growth

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## Induced Growth

Controversy, Uncertainty, and Strong Opinions

*"Any new highway capacity will cause sprawl."*

*"CRC will cause sprawl just like I-205 bridge did."*

*"Highways don't cause growth, they serve growth."*

*"Tolls/LRT will eliminate need for highway capacity."*

*"Tolls will cause massive diversion."*

➢ How will CRC affect future land use development patterns?

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## How will CRC affect future development patterns?

1. How will CRC change transportation facilities and transportation performance?
2. What do local and regional plans indicate for future land use?
3. What does existing research say about how transportation development affects land use patterns?
4. What are the predictions of integrated land use / transportation modeling?
5. Will CRC have the same induced effects that have occurred since the I-205 bridge was built?

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## 1a. What changes to transportation facilities does CRC introduce?

- Replacement bridge with more lanes
- Improvements to 7 interchanges in a 5 mile segment around the river
- Light rail transit to Clark College in Vancouver
- Improved bike and ped facilities and connections
- Tolling


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## 1b. How will it affect Travel Performance?

- Auto trips
  - More peak period auto throughput than No-build
  - Fewer daily auto trips than No-build
  - Minimal traffic diversion to I-205
- Travel time savings
  - Highway: 23 minutes (26%) shorter *roundtrip* between 179th (north of Vancouver) and I-5/I-84 interchange
  - Toll's equivalent time value partially "counteracts" time savings
  - Transit: 50 minutes shorter roundtrip from CC to Pioneer Square
- Higher Transit and Bike/Ped mode share
  - Increase peak period transit ridership about 250%
  - Higher bike and pedestrian share

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## 2. Do Local and Regional Land Use Plans Manage Growth?

- Oregon: Long history of strong growth management since ca. 1980
  - Local and regional comprehensive plans for managing growth
  - Integrated transportation and land use planning
  - Urban Growth Boundary
    - Expansion requires state approval and can be appealed to the Land Use Board of Appeals
- Washington: passed state GMA in 1990
  - Local and county comp plans for accommodating anticipated growth
  - Concurrency requirements
  - Urban Growth Areas
    - Expansion requires state approval and can be (and has been) appealed to the Growth Management Hearings Board
- Local plans for Hayden Island and downtown Vancouver

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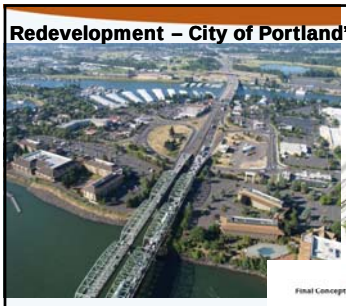
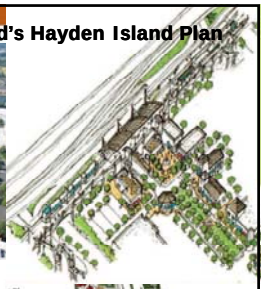
## Redevelopment – City of Portland's Hayden Island Plan





- New LRT line and station
- Major redevelopment
- Transit-oriented
- Add 2,000 residents

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## Vancouver Plans: Existing waterfront

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## Local Plans – Vancouver City Center Vision for Waterfront

- New LRT line/stations
- Major new development
- Transit-oriented
- Add 5,000 residents
- Add 15,000 jobs

## 3. What does national research say about nexus between transportation and development patterns?

- What factors are associated with highway projects that tend to result in sprawl?
- What factors are associated with high capacity transit projects that tend to result in compact development?

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## Six highway characteristics that lead to sprawl. Does CRC have these?

1. New access to previously unserved or greatly underserved areas?
   - No. CRC is entirely within urbanized area. This corridor has been a road crossing for 90 years and an Interstate highway for 50 years.
2. New access to land on the urban edge?
   - No. 7 miles inside Vancouver UGB and 13 miles inside Metro UGB.
3. Real estate markets that support low density development?
   - Yes and No. Outer edge of UGA allows low to medium density residential development similar to Oregon side (6 units/acre).

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## Highway characteristics that lead to sprawl. Does CRC have these?

4. Highway travel times substantially improved?
   - Yes and No. Toll has time value "penalty" effect.
5. Auto travel costs substantially reduced?
   - No. Auto travel costs increase with toll.
6. Local and regional land use regulations do little to manage growth?
   - No. Portland Metro has had UGB since 1980. WA passed GMA in 1990. UGA expansion must be justified and is subject to challenge.

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## Five High Capacity Transit characteristics that lead to compact development. Does CRC have these?

1. Growth in ridership / high ridership?
   - Yes. 250% growth
2. New access to developable/redevelopable land previously unserved or underserved by transit?
   - Yes. Hayden Island & downtown Vancouver
3. Local land use regulations and public investment that support such development?
   - Yes.

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## High Capacity Transit characteristics that lead to compact development. Does CRC have these?

4. Real estate markets that support such development?
   - Yes.
5. Positive public perception of transit?
   - Yes.

➢ Relevance to CRC?
- Likely to promote high density, transit oriented development

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## 4. Metroscope Analysis of Potential Induced Land Use Impacts

- Integrates economic, demographic, land use and transportation data
  - Economic model (market analysis of supply/demand)
  - Travel model (input from Metro T demand model)
  - Two real estate location models
  - GIS database and tools
- Can "test" a range of policy scenarios
  - e.g., how distribution of population and employment might be affected by change in transportation infrastructure
- Model outputs relevant to CRC indirect impact analysis:
  - Employment location
  - Households and Housing prices (proxy for housing demand)

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## 2010 Metroscope Results (for 2030)

- Regional job growth shifts slightly to I-5 corridor
  - 1.5% (1,700 jobs) higher growth in N. Portland
  - No shift to/from Clackamas or Washington Co.
  - Slightly less growth in East Multnomah (<1%)
- Minor shift in household growth location
  - 0.5% higher growth in southern Clark Co HHs
  - 0.3% lower growth in northern Clark Co HHs

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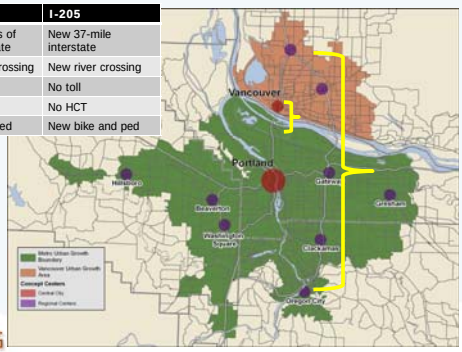
## 5. Will CRC induce sprawl like I-205 did?

| | I-5 CRC | I-205 |
|---|---|---|
| | Upgrade 5 miles of existing interstate | New 37-mile interstate |
| | Upgrade river crossing | New river crossing |
| | Add toll | No toll |
| | Add LRT | No HCT |
| | New bike and ped | New bike and ped |

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I-5 (SR14 and Hayden Island interchange areas)
During CRC Planning phase

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## How did I-205 compare to sprawl factors?

| Factors associated with increased auto trips and sprawl | Does the CRC project and project area exhibit these factors? | Did I-205 and its project area exhibit these factors? |
|---|---|---|
| Highway project provides new access to areas previously un-served or greatly underserved by highways | **No.** It's been a crossing since 1917 and I-5 corridor since 1958. | **Yes.** I-205 was a new 37-mile highway and river crossing. |
| Highway project provides new access to land on the urban edge | **No.** Over 7 miles inside Vancouver UGA and 13 miles inside Metro UGB | **Yes.** Designed as eastern bypass near or outside the urban edge. |
| Project substantially improves highway travel times | **Partially.** Travel time about 20% shorter than No build, but longer than existing. | **Yes.** A new interstate corridor opened between 1974 and 1982. No toll. |

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## How did I-205 compare to sprawl factors?

| Factors associated with increased auto trips and sprawl | Does the CRC project and project area exhibit these factors? | Did I-205 and its project area exhibit these factors? |
|---|---|---|
| Project reduces auto travel costs | **No.** Toll increases auto travel costs | **Yes.** One of project's stated goals. |
| Real estate markets support low density development | **Partially.** | **Partially**. |
| Local and regional land use regulations do little to manage growth | **No.** Growth management established on both sides of the river | **Yes.** OR side: 1st UGB in 1980; WA side (GMA not until 1990/91) |

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## Indirect land use impacts conclusion

- The project is likely to promote:
  - Increased housing and employment in north Portland, Hayden Island and south Clark County
  - Development more likely to be higher density and more transit oriented
  - Minor regional redistribution of employment and population:
    - Minor redistribution of jobs from broader region to BIA of I-5 corridor
    - Small increase in housing demand in southern Clark County
    - Slightly reduced growth in north Clark County

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## Greenhouse Gases and Climate Change

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## Greenhouse Gases and Climate Change

Controversy, Uncertainty, and Strong Opinions

*"You're adding highway capacity; that will add GHG emissions."*

*"Tolling will increase GHG emissions."*

*"Congestion relief will reduce emissions."*

*"Need to reduce emissions below today's levels."*

*"Need to evaluate system, not individual project."*

➢How will CRC affect future GHG emissions?

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## GHG/Climate Change Overview

- What was the goal of the GHG analysis?
- Why does methodology matter?
- Were the findings useful?
- How did we update it for the FEIS?

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## Our goals for the GHG Analysis in DEIS

- Inform project decisions
- Compare alternatives
  - Replacement (12 lanes) vs Supplemental (8 lanes)
    - Highway speed differences
    - Duration of congestion differences
  - Highway tolling effects (diversion and reduced auto trips)
  - LRT vs. BRT
    - Difference in ridership and mode shift
    - Difference in energy sources
- Understand how induced growth could affect GHG
- Less concerned with:
  - Precise measurement of total GHG emissions
  - Lifecycle emissions estimates

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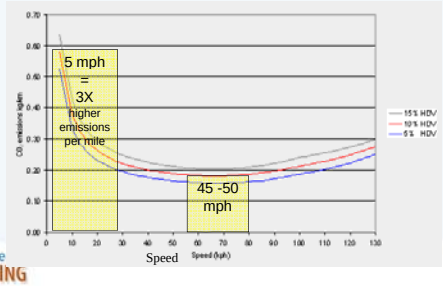
## Why is Traffic Speed Important?

- Speed affects fuel consumption
- Fuel consumption affects GHG emission rates

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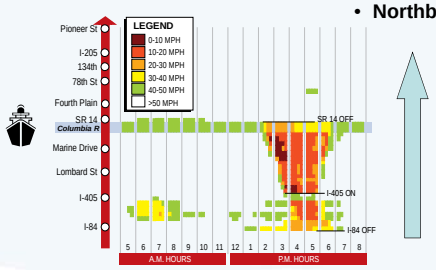
## Speeds Could be Critical in Bridge Bottleneck

**Existing Conditions**
- **pm peak**
- **Northbound**

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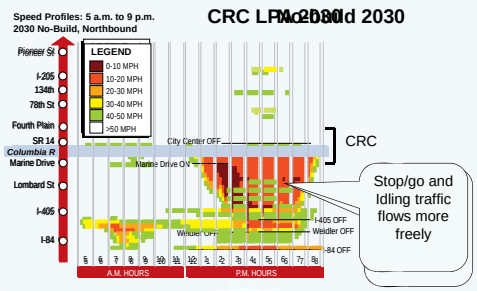


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## How to Select a Methodology?

- No regulatory or industry standards
- Existing methods in 2007
  - No method to capture speed effects
  - EPA developing a new model (MOVES) but not ready
- Developed new method
  - Traffic projections and operations (EMME/2 & VISSIM)
  - Energy consumption (by vehicle class, speed)
  - Emissions factors

**NAEP Award for Environmental Excellence**

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## What makes the methodology useful for CRC?

- Detailed speed information throughout the day
- Accurate traffic operations in highly congested areas
  - Captures effect of:
    - Tolling on auto demand
    - Transit mode shift and transit energy use
    - Different transit modes
    - Traffic flow changes with add/drop lanes

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## Caveats and Limitations

- No regional GHG estimate
- Addressed qualitatively in GHG analysis:
  - Elimination of bridge lifts
  - Reduction in crashes/incidents
  - Effects of induced growth
- Assumes no extraordinary improvements in vehicle technology or fuels

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## What did we find?

- Highway-related GHG emissions
  - Every future alternative higher than existing conditions (because 1 million more people)
  - Every Build alternative lower than No-Build
  - Relatively small differences among build alternatives
  - Congestion makes a difference
  - Toll and HCT make a difference
- Transit GHG emissions varied substantially
  - LRT lower than BRT (but depends on electric power source)

➢ Project sponsors selected lowest GHG emission alternative as preferred alternative

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## Why wasn't everybody happy?

- Comment: *"We don't trust these findings. A highway project can't possibly reduce GHG emissions. We want independent review."*
- Response:
  - Independent Expert Review Panel
  - Updated the transp/land use modeling
  - Clarified the analysis and results

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## Upgrades for the FEIS analysis

- Used MOVES 2010
  - Full regional emissions estimate
  - Fully capture toll-related diversion effects
- Estimated emissions reduction from eliminating bridge lifts
- Further discussion of:
  - Mode shift to biking or walking
  - Highway safety improvements (qualitative)
  - Indirect effects (qualitative)

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## What's next?

- How else can region reduce GHG emissions?
  - Generate green energy in ROW?
  - Recharge stations at park and rides?
  - Further improve bike/ped access to stations
  - More actively support TOD
  - Sustainability Strategy
- Consider adaptation

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## Lessons learned

- Pay close attention to emerging issues
- Controversial subjects inspire strong opinions
- Good analysis alone is not enough
- Effective independent review

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## Questions?

Oregon Department of Transportation | Washington State Department of Transportation

Federal Transit Administration • Federal Highway Administration
City of Vancouver • City of Portland • SW Washington Regional Transportation Council • Metro • C-TRAN • TriMet